**Annex I – Project Document**

UNITED NATIONS

Project Document

**Implementing Partner: S3P-**IFAD funded project, Zambia

**Start Date:** upon signature of the UN to UN Contribution Agreement

**End Date:** 24 months after the signature of the Agreement

PAC Meeting date: TBD

Agreed by (signatures):

|  |  |  |  |
| --- | --- | --- | --- |
| Government of Zambia | IFAD | MADECO | UN Resident Coordinator |
| Name: | Name: | Name: | Name: |
| Date: | Date: | Date: | Date: |

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Currency equivalents

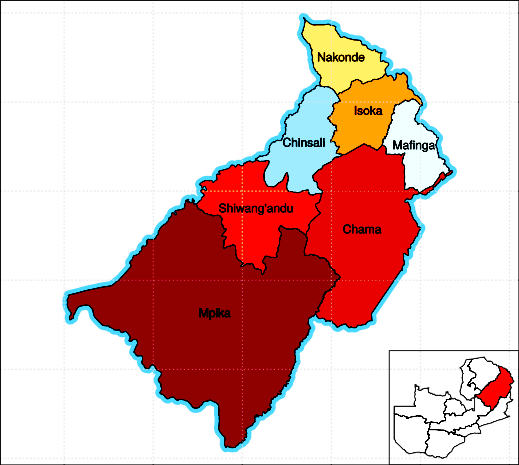
|  |  |  |
| --- | --- | --- |
| Currency Unit | = Kwacha |  |
| US$1.0 | =10 |  |

Weights and measures

|  |  |  |
| --- | --- | --- |
| 1 kilogram | = | 1000 g |
| 1 000 kg | = | 2.204 lb. |
| 1 kilometre (km) | = | 0.62 mile |
| 1 metre | = | 1.09 yards |
| 1 square metre | = | 10.76 square feet |
| 1 acre | = | 0.405 hectare |
| 1 hectare | = | 2.47 acres |

|  |
| --- |
| Abbreviations and acronyms |
| 7NDP Seventh National Development Plan  COMACO Community Markets for Conservation  EIRR Economic Internal Rate of Return  ESB3P Enhanced Soya Beans Production and Processing Programme  GDP Gross Domestic Product  GNI Gross National Income  GoZ Government of Zambia  GRZ Government of the Republic of Zambia  IBSA India Brazil South Africa  IFAD International Fund for Agricultural Development  M&E Monitoring and Evaluation  MADECO Muchinga Agricultural Development Company  MoA Ministry of Agriculture  MDGs Millennium Development Goals  NPV Net Present Value  RBM Results Based Management  RRR Required Rate of Return  SCCI Seed Control and Certification Institute  SDGs Sustainable Development Goals  ZARI Zambia Agriculture Research Institute |
|  | |

Map of the project area



Mpika District

Executive Summary

1. Project background

The agriculture sector is the fourth largest contributor to GDP (8.7 percent) and the largest contributor to employment. The sector is critical for achieving diversification, economic growth and poverty reduction in Zambia. Family agriculture is the backbone of the rural economy and thus holds great potential for modernisation due to its predominance. The rural population is still growing, therefore labour supply in agriculture is plentiful and its absorption will be crucial to rural development: the absolute numbers of workers in agriculture will grow, putting increasing pressure on natural resources or on urban labour markets. The agriculture sector will also retain its central role in rural livelihoods and employment over the next decades. The Government of Zambia’s 7NDP places agriculture and indeed smallholder agriculture at the center of efforts to improve productivity of the sector. The MADECO wishes to assist with these efforts through a request for partnership financing for the Enhanced Soya Bean Production and Processing Programme (ESB3P) in the Mpika district of Muchinga province

The project will address some of the binding constraints identified in the 7NDP that continue to severely restrict the growth of the sector and is responsible for the consignment of a large proportion of the rural population to a cycle of poverty and vulnerability. The agriculture sector is expected to contribute to sustainable economic growth, which is considered central to Zambia’s ability to reduce poverty, achieve the SDGs and gain self-sufficiency. It is recognized that, without achieving this growth, it will be impossible to deliver on the Government’s vision of creating wealth and employment for all the people of Zambia. Government efforts under the plan are therefore expected to contribute to increased on and-off farm incomes and employment opportunities, leading to poverty reduction; realization of Zambia as a hunger free nation; improved small holder profitability; and protection of natural resources and the environment for sustainable growth. The proposed project activities are also well anchored in the Government’s New 7NDP and the Decentralisation Policy. Thus the project will contribute to the achievement of the goals of the 7NDP and the Agricultural Sector Strategy.

The proposed project is anchored on Pillar 7 & 8 of the Country’s 7NDP (2017-2021) which seeks to help increase the level of support to agricultural/rural development. The 7NDP interventions are directly linked to the strategic priorities of the SDGs and aligned with Vision 2030. The project will contribute to achieving the following SDGs:

• Goal 1: No Poverty

• Goal 2: Zero Hunger

• Goal 5: Gender Equality

• Goal 8: Decent Work and Economic Growth

• Goal 10: Reduced Inequalities

The Project will also contribute to the achievement of core objectives of poverty alleviation and sustainable development and the comprehensive agriculture development. The project builds on the experiences gained from the various IFAD financed projects in Zambia. The choice of this smallholder agriculture intervention is in line with the IFAD’s strategy on selectivity to boost production and productivity, food security and poverty reduction in least developed countries.

MADECO is a start-up limited private company that will implement the proposed project through a special purpose project coordination unit staffed by qualified personnel to be recruited for the purpose for the duration of the project subject to the acquisition of new financing to continue the social project model. MADECO’s ownership is spread over a diverse range of individuals (see appendix 3) with an requisite mix of backgrounds required for the establishment and oversight functions of the project. The company will provide in-kind contributions of labour and land to the project. Detailed biodata of the promoters is annexed hereto.

The project will seek collaboration with IBSA countries under the south-south cooperation for technical assistance with regard to soya beans production and seek to leverage best practices recorded in countries such Brazil as well as the ability to meet quality standards demanded in export markets such as South Africa.

* 1. Purpose of Partnership Contribution

The IBSA partnership contribution of $1.714 million will be used to finance the investments and recurrent costs of the project.

* 1. Sector Goal and Project Objective

The overall sector goal of the project is to contribute to poverty reduction and food security in rural Zambia. The specific objective of the project is to increase productivity, build capacity and income of rural households in the project area. This will be achieved through the promotion of intensification and diversification of the existing cropping system and improvement to the marketing system, which will significantly increase production, productivity and incomes of the small farmer whilst improving household nutrition and environmental management of natural resources at the same time.

* 1. Description of Project outputs/outcomes

In order to achieve the stated objective, the project will focus on:

1. **Value Addition Component:** The project will procure a 20-50 tonne per day (the project will procure in the region of between 6,000 and 15,000 soya beans TPA depending on size of plant, with 300 days per year that allows for factory downtime) soya bean processing plant to process raw soya into oil and by-products that include soya cake. This will be implemented in year 2 of the project. MADECO will manage the oil extraction plant. The source of the raw materials will be the smallholder farmers under component (b) below.

The soya oil extracting plant will require estimated productions costs of $46,810 per month at full production capacity of 50TPD. The executing entity will be responsible for the maintenance of the plant and it is expected that it will be a self-sustaining enterprise. Any additional resources that may be required for its operation will be sourced by the executing agency MADECO. The strategy for the disposal of the plant’s production is two pronged: First, the entity expects to enter into off-take agreements with established producers locally. Secondly, it will involve entering the wholesale and retail markets locally and within the region to sell refined cooking oil and livestock feed. Outside the regional markets of COMESA and SADC, Congo DR is a good market for Zambia’s products. The full production costs are in the Annex.

1. **Farmer Support Programme:** including support for the establishment of 2000 (half of that number women and youth) smallholder farmers (existing 1,600) trained in water management; seed and crop production with optimal yields averaging 2,500 to 3,000kg/ha and pest control technologies; 34 extension officers will receive training of trainers; to include training on environmental mitigation measures; soya bean seed growing and certification, training in techniques of financial management and business planning, aspects of post-harvest handling and in simple market research concepts; construction of community storage facilities and market centers. A 20 ton truck will be procured. All assets procured under this component will be used to implement the value addition component.

The District MoA team will act as a technical facilitation team for project activities. The MoA will receive motor bikes from the project to carry out extension support. The officers here are full time government officers. The project will facilitate extension work through provision of allowances and fuel for the duration of the project.

1. **Project Coordination and Management:** The project will provide resources for management

and coordination of the project including key project staff, equipment for project and district coordination, monitoring and evaluation, supervision, preparation of audit and progress reports and studies.

Under this component, the project will purchase vehicles (x2) and office equipment. The assets bought under the component will be used by MADECO as it expected the project will continue with an injection of fresh financing and be able to implement the value addition component.

* 1. Project Costs

The total cost of the project including contingencies, is estimated at $ 1.714 million. Most of the costs are local costs except for the processing equipment which will be sourced from an appropriate overseas supplier.

* 1. Sources of Finance

The total cash costs of $ 1.714 will be fully financed by a non-reimbursable partnership contribution from IBSA. It is expected though that MADECO and the community will provide in-kind contributions of labor and land.

* 1. Project Implementation

The project will be implemented over a period of 2 years. The Implementing Agency of the project will be IFAD, with MADECO as the Responsible Party for execution of activities. The project will be implemented within the established structures in the IFAD, which will oversee project implementation, monitor project progress, and coordinate and account for the utilization of project funds. The MADECO will be strengthened by the recruitment of a technical staff comprising a Project Coordinator, Project Accountant, Agronomist, Monitoring and Evaluation Officer and a Procurement Officer as key staff, and support staff. The project will utilize existing capacities residing at the district office of the Ministry of Agriculture and the Agriculture college to assist in the day to day implementation of project activities in the district. The project will start with the Soya Bean production and seed multiplication in the first year that will entail coordination with the Seed Certification and Control Institute (SCCI.).

The project will be supervised by a project steering committee to comprise, an IBSA local representative, IFAD representative, MADECO board members, MoA representative, local council representative, and the Project Coordinator. MADECO board members are listed in the appendix, we expect the other parties to submit nominated names.

Logical Framework

Annotations: Preliminary draft LogFrame describing the logic and main results should be included, as described in paragraph 9 of LogFrame instructions.

| **Results Hierarchy** | **Performance Indicators** | | | **Source** | **Assumptions (A)**  **Risks ®** |
| --- | --- | --- | --- | --- | --- |
| **Indicators** | **Baseline** | **End Target** |
| ***Goal***: Reduce poverty and vulnerability | * Rural Poverty indicators | National 7NDP   * 76.6% National (2015) | Target by 7NDP   * >70% National (2021) | Commodities competitiveness and M&E reports and 7NDP reports | **Assumptions**: Continuity in GRZ reform policy  Risks mitigation: 7NDP already launched to encourage investment and growth |
| ***Development Objective***:  Increased productivity and production  Enhanced income | * Increase in yields obtained by farmers | Project Area (Baseline 2017)   * Crop yield (t/ha) - >1.5 (2015) | Project Area (Baseline 2017)   * Crop yield - >3.2 (2021) | * Market competitiveness analyses and M&E reports * LCMS by CSO | **Assumptions:**   * Normal rainfall pattern occurs * No conflict among beneficiaries   **Risks mitigation:**   * Use of sustainable agricultural practices * Effective communication and sensitization of farmers |
| * Food security improves | National by 7NDP   * Average months of household food scarcity 3.2 months (2015) | Target by 7NDP   * 1.5 months 2021 (national) |
| * Average annual incremental income of farmers | * National average rural income (2015) - $80 (monthly) | Project area target (2021) – incremental $50/month |
| **Outcomes/ Components**:  **Outcome 1:**  Value addition Component |  |  |  | M&E and supervision Reports, annual auditing | **Assumptions**:   * Additional resources are in place in addition to income from project to finish plant * Project beneficiaries follow through with their stated interest |
| **Outputs:**  1.1 Procure Soya bean processing plant in Project 2nd Phase | * Plant installed in 2nd phase and operational | * Processing plant project area (0) 2017 | * (1) 2021 |
| **Outcome 2:**  Farmer Support Component |  |  |  | M&E and supervision Reports, annual auditing | Assumptions:   * Demand for soy bean is present given the presence of processors in the area.   Risk Mitigation   * Promote diversification to compensate for temporary price fluctuations in a particular crop i.e. improve crop mix |
| **Outputs:**  2.1 Scheme Management |  |  |  |
| 2.2 Agricultural Production   1. Training in crop production techniques | * No. of extension staff and farmers trained | * Trained (0) | * (>2000) |
| 1. Support to Framers Organizations | * No of farmers recruited | 1,600 | 500 (>50% women) |
| 1. Support to Extension Service | * No of institutions and staff whose capacity has been improved | * (0) | >2 |
| 2.3 Marketing   1. Marketing Capacity Building & Competitiveness | * Post harvest losses | * Average estimated 16% National (2010) | * Project area >10% (2021) | M&E and supervisions reports |
| **Outcome 3:**  Project Coordination & Management |  |  |  | * M&E and supervision reports * Annual Audit reports * Midterm review * Bidding documents, contracts and progress reports | Assumptions:   * No delays in project activities   Risk mitigation   * Qualified staff are employed |
| **Outputs:**  3.1 Recruitment of Technical Team | * No of staff recruited | * 0 | 7 |
| 3.4 Contracts for Designs and Works | * No of contracts signed | * 0 | 3 |
| 3.5 Inspection and Supervision Signed with SSCI, among others | * No of contracts signed | * 0 | >3 |
| 3.6 Midterm & Final Review | * Surveys, reviews | * 1 | >10 |
| 3.7 Audit of Accounts | * One annual audit | * 0 | 2 |

*\*Up to 15 indicators including a few optional RIMS indicators. In addition to these, RIMS mandatory indicators must be added. \*\*The distribution of indicators is illustrative \*\*\*Intermediate targets for the Goal and Outputs are optional.*

# Strategic context and rationale

## Country and rural development context

1. *Introduction*

This project report develops in detail the concept proposal submitted to the IBSA for consideration. MADECO, the private sector entity behind the project is composed of individuals drawn from diverse business and educational backgrounds unified and rallying behind a common goal of contributing to the achievement of the 2030 agenda for sustainable development of poverty eradication by improving the socio-economic status for the people of Mpika through the ESB3P. ESB3P is a sustainable, holistic and integrated project whose interventions are expected to provide tangible economic and social benefits to the direct project participants and assist in ameliorating inequality and inequity in Zambia. The project seeks to assist in actualising, on a micro scale, development goals as set out in the 7NDP and SDGs.

* 1. Current economic situation

Zambia is classified by the World Bank as a lower middle-income country with a GNI per capital (US$) of approximately $1,500 (2015) and as a Least Developing Country by the United Nations. Zambia’s development aspirations as anchored in the Vision 2030 Strategic Plan as well as the 7th National Development Plan 2017-2021, and resonating with the international instruments including the 2030 Agenda for Sustainable Development seek to transform the country into an upper tier middle-income country by 2030.

The recently launched 7NDP focuses on enhanced economic diversification away from mining; job creation and promotion of decent work conditions especially in rural areas; re-emphasize the importance of agriculture in economic diversification and job creation, among other priorities.

Zambia's economy during period the 2000 to 2005 grew at an annual average of about 5.8 percent while the 2006 to 2015 period saw an upward and sustained growth averaging 6.9 percent. Despite this growth, 54.4% of the people continue to live below the poverty datum line., with rural poverty at 76.6%.

The country continued to be dependent mainly on its copper industry. Zambia's dependency on this industry exposes it vulnerabilities of commodity price fluctuations. Despite the post-2000 policy initiatives to diversify the economy by building stronger manufacturing and agriculture sectors, mining still remained the dominant sector. While agriculture yielded positive growth rates over the 2000 to 2014 period, the sector's contribution to Gross Domestic Product (GDP) declined from 23.8 percent in 2000 to 6.8 percent in 2014. The share of mining increased from 4.2 percent to 14.6 percent between 2000 and 2014.

The country has recognized the multi-faceted and inter-linked nature of sustainable development, thus the 7NDP is anchored on an multi-sectoral and integrated planning and implementation framework

* 1. The agricultural sector

The agriculture sector is the fourth largest contributor to GDP (8.7 percent) and the largest contributor to employment. The sector is critical for achieving diversification, economic growth and poverty reduction in Zambia. Family agriculture is the backbone of the rural economy and thus holds great potential for modernisation due to its predominance. The rural population is still growing, therefore labour supply in agriculture is plentiful and its absorption will be crucial to rural development: the absolute numbers of workers in agriculture will grow, putting increasing pressure on natural resources or on urban labour markets. The agriculture sector will also retain its central role in rural livelihoods and employment over the next decades.

The 7NDP has the following priorities under agriculture:

* Improve production and productivity
* Improve access to finance for production and exports
* Enhance agriculture value chains
* Promote diversification within the agriculture sector
* Enhance investment in agriculture infrastructure
* Promote small scale agriculture
* Increase job creation in rural areas
* An integrated and sustainable development approach will involve investment in water resources management.

The 7NDP further pays attention to agricultural development with consideration of two major leverage effects. First, increasing farmers’ incomes directly supports rural demand, which results in the development of new activities and the diversification of the local economy, contributing to the overall process of structural transformation. Second, increasing agricultural outputs leads to the development of both upstream and downstream activities, the consolidation of value chains and the expansion of agro-industries, which are significant sources of employment and present real opportunities for economic diversification.

In addition, organic and competitive advantages in agriculture are numerous, including the current low use of chemical fertiliser which allows Zambia to leapfrog to high productive organic fertiliser use and techniques and likely to receive a premium price on the world market and creating a local value addition in organic fertiliser production, increase organic export revenues and reduce the import bill from chemical fertilisers.

Agriculture has the advantage of abundant land and water resource endowments. The sector has traditionally focused on crop production. Diversification within the agriculture sector is central in improving productivity, providing inputs to agro-processing and the manufacturing sector, for increased contribution to foreign exchange earnings and resilience to emerging challenges, as rains become more erratic and less predictable due to climate change. Integrating climate smart techniques is necessary to buffer against natural shocks, such as droughts and the weakening of seed and animal varieties due to the impact of climate change. Agro-diversification and development will thus be based on comparative and competitive advantages in line with the Government’s Green Revolution agenda.

Zambia’s focus is now on improving production of high value exports, such as cashew nuts, soya beans, coffee, maize, wheat, tea, cotton, sugar, fish, agro-forestry and livestock products as well as other commodities to support the local manufacturing sector. Emphasis will be placed on value addition through development of complete value chains along these commodities.

Agriculture is deemed to be Zambia’s golden bullet in the near future as Zambia utilises more of the arable land covering 47 percent of the country’s total with only 15 percent under cultivation.

In terms of Soya beans, the country has experienced a gradual increase in the production of soya beans, reaching 267,490 MT in the 2015/2016 season, the highest in the country's history. The contribution of smallholders to national soya bean output steadily increased.

* 1. Development and social objectives

The development of the agricultural sector in general and its various agro subsectors holds the greatest potential for economic diversification, job creation and extreme poverty eradication and vulnerability. A sustainable national development strategy in this context is one that prioritizes the eradication of inequality and inequity. Strategies in this regard will focus on the rural-urban divide and vulnerable sections of our population including the youth and women.

As at 2016, Zambia’s population was estimated at 15.9 million of which 57.9 percent was rural-based. While more than half of the population lives in rural areas, the country has had huge development deficits in rural areas, especially in key sectors that can help facilitate growth and development. Rural areas continue to have poor road networks and poor delivery of social services, limited access to electricity with the majority of the population working in the informal agriculture sector, characterised by low productivity.

The underdevelopment of rural areas is attributed to among other factors having a highly centralised system of development delivery, which tends to disadvantage rural areas. Also, the fiscal architecture does not allow for direct receipts of resources for development of deprived rural areas. Despite high economic growth in the last 10 years, poverty has remained persistently high at 76.6 percent in rural areas, compared to 23.4 percent in urban areas. The disparity shows that in Zambia, poverty has a rural dimension and the economic gains of the country largely benefit the urban areas.

To reduce the growing regional inequalities, there is need for deliberate interventions focusing on rural development, supported by a comprehensive coordinated approach to stimulate rural development

As a commitment to promoting gender equality and according to the 7NDP, the Government plans to maintain and accelerate efforts by facilitating organisational transformation to enhance responsiveness in all dimensions. To achieve this, the Government will enhance capacity for gender mainstreaming and engender policies, plans, programmes, projects, activities and budgets by coordinating and monitoring implementation of the National Gender Policy. With regard to women’s empowerment, the Government will engender the planning and budgeting processes, especially in the key sectors driving national development.

* 1. Income distribution and poverty

Zambia is still one of the poorest countries in the world with an estimated poverty rate of 54.4 percent. Poverty continues to persist in Zambia even under episodes of strong economic growth. About half of the population currently lives below the poverty line (US$1.09) while 40.8 percent are unable to meet daily basic needs, such as food. The situation is even worse in rural areas where an estimated 76.6 percent are classified as poor.

The number of vulnerable households has also been on the rise and comprises people with limited access to essential services that are necessary for human survival such as health, education, water and sanitation. In addition, poor nutrition, which in part is a function of food insecurity in poor households, further erodes the human capital potential. This reinforces the intergenerational transfer of poverty and keeps these households trapped in a vicious cycle of poverty. Vulnerable groups currently include: female-headed households, child-headed households, persons with disabilities, orphaned children, the chronically ill and elderly people.

While minimal successes were achieved during the MDGs period, Zambia has again joined the rest of the world in fighting poverty through the Sustainable Development Goals (SDGs) to finish off what was started. Like the MDGs, the SDGs are part of the 2030 Agenda for Sustainable Development which seeks, among other things, inspire sustainable economic growth which leaves no one behind with ending poverty by 2030 as its over-arching goal.

Zambia has recorded an average of 7 percent economic growth in the past decade. However, poverty levels are still high at 54.4 percent, with rural poverty at 76.6 percent in 2015. Huge disparities exist between rural and urban areas and this has undermined the capacity of the rural population to significantly contribute to economic growth. The Gini coefficient as a measure of income inequality increased from 0.65 in 2010 to 0.69 in 2015, placing Zambia in the category of the most unequal countries.

Strategies that promote integrated rural development will include rural agro productivity enhancement as critical or core programmes in achieving the desired outcomes. Other strategies here include reducing gender inequality and the enhancement of income opportunities for poor and marginalised groups.

Mpika, our proposed project area, is typically a rural district with above average rainfall and huge tracts of arable land, with a thriving agro economy, though typically underdeveloped. Its poverty and gender profile is typical of the average Zambian rural area.

Binding constraints that still stubbornly persist and serve to perpetuate poverty and vulnerability include:

* Unemployment and underemployment: Zambia has an unemployment problem, which affects both rural and urban areas. Rural areas have a more acute problem of underemployment, as workers are underpaid for their labour, leaving them vulnerable to poor living conditions. In the urban areas, workers are usually engaged in the informal sector, which is characterised by low wages and lack of social protection; this perpetuates their vulnerability too.
* Limited access to finance: The level of financial intermediation is very low in Zambia, with rural populations being disproportionately affected. The high interest rates have compounded the problem. In rural areas, people are vulnerable as a result of their inability to access finance, inadequate entrepreneurship skills and unaffordable agricultural inputs.
* Inadequate infrastructure: Rural populations face relatively poor infrastructure services; services such as roads, hospitals, schools, water and sanitation are scarce and this accentuates poverty, vulnerability and inequality.
* Limited access to services and markets: Limited access to social services and markets is an acute constraint in rural areas. Not only are the social services inadequate, but where they are available, financial constraints often limit the extent to which rural communities can access them. Similarly, the rural population is disadvantaged with regard to access to markets, which compels them to sell their produce below market prices.
  1. Institutions

The district has a number of institutions concerned with agricultural development and these include:

* The Ministry of Agriculture, district office
* An agricultural college
* A research station district office
* Private sector companies and NGOs such as COMACO involved at various levels of the agricultural value chain spectrum for crops, aquaculture and livestock subsectors.

## Rationale

The proposed project will seek to assist in the development of the soya bean value chain in Mpika district and indeed the entire Muchinga province in the long term. In the short to medium term, the project will focus on the input supply and production levels of the value chain in that order.

In the longer term, the project will enter the assembly, wholesale and processing levels. Sustainable farming practices will entail the rotation of soya bean crop with other legumes such as sugar beans and non-legume high value crops.

Agriculture employs the largest number of Zambians. However most of this employment is informal. The share of agriculture in total GNI is around 14%, with the growth of value addition in agriculture declining in absolute terms. Poverty is extremely high in rural areas with share of income held by the richest and poorest 10% of the population at 45% and 1.5% respectively. Prevalence of undernourishment is at an average of 51% and growing.

With a population of roughly 250,000 Mpika’s poverty levels will be, roughly, at 76% of that figure and a dependence ratio of close to 98% in line with national averages.

The project will contribute to achieving the following SDGs:

* Goal 1: No Poverty
* Goal 2: Zero Hunger
* Goal 5: Gender Equality
* Goal 8: Decent Work and Economic Growth
* Goal 10: Reduced Inequalities

In seeking to leverage the agro potential in the Mpika district with a land area of approximately 41000 km2. We shall employ strategies that combine agricultural diversification, job creation and formalization, value addition, enhancement of food security and nutrition and sustainable agro practices.

The prevalence of undeveloped and underdeveloped value chains for almost all subsectors in agriculture is one perennial constraint.

The soya bean value chain has been identified as a priority value chain, based on a number of agronomic and nutritional attributes, as well as its income generating potential for poorer farmers, especially women. The global goal of this project is to assist in the enhanced commercialization of smallholder soya bean production by leveraging the agro potential of the district and seeking to address the identified constraints to the growth of the crop.

Soya beans offer a variety of potential benefits to the production systems, diets, and incomes of smallholder producers. In addition to being a potentially profitable cash crop, the high protein content (about 40%) in soya means it could also contribute to improved nutritional status of rural households. Though soya beans are not usually boiled and eaten like other legumes such as beans, cowpeas, or groundnuts, the soya flour is often mixed with other ingredients to form a nutritious rich protein blend that can be prepared into breakfast porridge. Given high levels of under nutrition in rural Zambia, it is believed that soya porridge can improve the health of the malnourished children.

Soya production also has potential agronomic benefit of rejuvenating soils. Soya bean canopies protect the soil from recurrent erosion, fix atmospheric nitrogen into the soil and decaying root residues improve soil fertility. Soil improvement leads to higher levels of sustainable agriculture with minimal input requirement.

In Zambia, the soya bean is mostly used as an industrial crop. It is used in oil production and in products such as soya chunks and soya meal. The by-product (cake) is fed directly to animals or processed with other ingredients into animal feed stock. As an animal feed, soya by-products provide relatively low cost, high quality protein to feed rations. With a livestock revolution underway in developing countries, including Zambia, industrial demand for soya is likely to increase. The growing demand of soya offers significant opportunity for smallholder farmers to improve their cash base.

Despite the clear benefits of soya production for smallholders, soya production remains limited. In part, this is linked to the pervasive belief among farmers that of presence of an underdeveloped value chain.

The proposed project will recruit existing soya beans smallholder farmers in Mpika district predominantly in Chief Chikwanda, Chief Mukungule, and Chief Mpepo’s areas.

A portion of the land will be used by the project as a demonstration field as well as back up production.

To enhance sustainable agriculture and food security in the district, the project further proposes to complement soya beans production with growing of sugar beans. This will ensure a balanced focus on income generating soya beans with sugar beans for supplementation of nutritional demands.

In formulating this project, we are alive to the risks and uncertainties that underpin the implementation of rural agricultural projects. To allow for risks in formulation, we have defined risk as a quantity subject to empirical measurement, while uncertainty is non-quantifiable. Risks and uncertainties include those specific to agricultural projects while others will be general.

Risks and uncertainties idiosyncratic to agricultural projects include:

* Industrial crops: soya bean is largely an industrial crop and risks here include yields and prices, cost overruns, mill capacities and throughput
* Rural and agriculture credit: repayment rates, and debt amnesties
* Rural agriculture development: implementation delays, cropping intensities, drought, floods. poor water management
* Health and education: morbidity and mortality levels, cost of services (participation rates and demand).

Mitigatory ,measures are detailed elsewhere in the project report.

# The Project

## Project area and target group

1. The project area

The project area will cover the largest district in Zambia, Mpika in Muchinga province. The project district was selected because it was the most suitable agro-ecological profile and MADECO has ready access to land in this area. MADECO has excellent rapport with the traditional leadership in this area and are willing to work with IFAD in the implementation of the project. The vastness of the district presents both opportunities and potential as well as constraints for rural development. There is clearly vast arable land, good rainfall patterns but also the vastness becomes an Achilles heel due to problems of limited infrastructure going further inland and the presence of an escapement that runs across the province.

* 1. Physical features

Mpika district was selected as the project site on account of favorable geographical and topographical features coupled with the vastness of the arable land available. The foregoing is suitable for the production of most crops on contiguous land, which enables closer supervision of the participants.

* + 1. Geographical location

The district is located in Muchinga province at the junction of the Great North and Kasama Roads. The district combines both peri-urban and rural economic characteristics with a peri-urban center at the said junction and surrounded by vast rural areas all around. The proposed project sight is approximately 50 Kilometers to the south of the “Boma”.

Smallholder farmers who do not have land will be able to lease land from the project for up to 10 years at an economic rental lease fee. There is a 4,000 hectares land available for this purpose.

* + 1. Climate

Mpika has a humid sub-tropical climate with its proximity to the Congo DR in the north, with a wet and dry season. Annual average precipitation is in the region of 1,040 mm with the temperature range between 25.80 C and 13.90 C. Relative humidity is on average at 64.8%.

Our proposed dry land farming is based on the wet season that comes between the months of November and March or average of 98 days in a year. See Annex for climate chart.

* + 1. Geology, Soils and Topography

The natural vegetation of the Mpika plateau consists almost entirely of Miombo woodland transected by open drainage lines or dambos. Rivers in the east run from the spectacular Muchinga escarpment and flow via the Luangwa and Zambezi rivers into the Indian Ocean drainage in the west giving rise to the Luangwa and extensive adjacent swamps, before proceeding via the Congo river to the Atlantic ocean.

The predominant vegetation type in Zambia, including much of the project area which is a plateau with an elevation of between 1,200 meters and 1,500 meters is savanna woodlands. The principal trees are the miombo, muchenga and the musuku. Where trees are dense, grass is much shorter. Soils are generally poor, shallow and slightly acidic. The production of legumes and rotation with other crops will therefore be of benefit to the land and indeed the farmers themselves.

* + 1. Water resources

The ground water yield in Mpika district is however moderate to poor. It is envisaged that the project will embrace irrigation in the long term to enable crop production to take place throughout the year as well as a safeguard against vagaries of weather.

* 1. Economic base

Mpika, being predominantly rural population has an agricultural based economy which is largely small scale farmer driven both for income and food. Employment (informal) is mainly in agriculture with a thriving urban center population working for the TAZARA railways, government, private and NGO sectors. There is recently constructed soya beans processing factory that processes the crop into edible oil, cake and other by-products within 200 Kilometres radius of the project area.

* + 1. Agricultural resources

Major crops grown in the district include maize, groundnuts, soya beans, other bean types, cassava, rice, sorghum, and sweet potatoes. The proportion of people employed in agriculture and agro related activities is the larger than any other economic activity.

The proposed project will assist in strengthening the agro sector in the district.

* + 1. Land use, farming systems and cropping patterns

Particular attention is being given by government to land reforms because land remains a critical factor of production, providing a basis for national development. Without an efficient and effective land administration system, meaningful development becomes difficult to achieve. Therefore, land reforms are being undertaken to ensure security of land tenure.

Land use in the project area is mostly subsistence agriculture on customary land with scattered areas of large scale farming on the main Great North Road and Kasama Road. Mpika also has a thriving livestock sub-sector centered around goat rearing. Mining operations have started opening up especially manganese but this remains insignificant.

* + 1. Input supply and product marketing

In general, agriculture input supply in Zambia is done through seed companies for seed, local fertilizer suppliers since the commodity is mostly imported and other agro dealers for indeed any other consumable input.

For soya beans, there is an important input called inoculum that is solely supplied by a government research institute ZARI. The inoculum helps the crop develop root nodules which in turn assist with fixing atmospheric nitrogen into the soil, thereby boosting yields. As matter of fact, the crop might not even require synthetic fertilizers at all. A commercial local variety called Magoye which is a promiscuous variety has the same bacterium as the one naturally occurring, that it does not even require inoculum to form root nodules.

Seed multiplication of the correct variety remains a very important agro objective at national level and indeed national investments in research and development is one very critical component in this process. Funding to ZARI and other players however remains problematic.

Most Soya bean varieties are self-pollinating and that means smallholder farmers will recycle the seed for up to four (4) years. Open pollinating varieties will hold the key to the growth of the seed input sector and the prices earned from this are very good.

Binding constraints do however abound in the upstream level of this value chain. The availability of commercial seed remains inadequate for various reasons some of which have something to do to some unique features of the crop. First is the presence of self-pollination varieties and secondly the inadequate supply of inoculum. The former will keep investments in seed at low levels, while the latter will serve to keep farmers away altogether if they cannot find the input. Prices will also be a factor.

* 1. Social Aspects
     1. Land tenure and size of holdings

Land in Zambia is ultimately vested in the Republican President regardless of the category. Land administration in Zambia falls under two (2) tenures; customary and leasehold of >100 years. Distribution between the two categories of land, is roughly, customary (93%), and leasehold (7%). Customary land, which accounts for land ownership in the project area, is that held and used in accordance with customary law.

Rural Zambia including the project area is mainly subsistence agriculture with individual family holdings of around 1 acre. Security of tenure for customary land is a topical issue with many subjects under this category expressing displeasure with the land management.

The MADECO team has had discussions with two traditional leaders in Mpika who have indicated that they will formalize leasehold tenure with those who will be part of the project. Further, the project promoters will make available an area of 4,000 hectares for landless farmers who will also be given sub-leases of up to 10 years. The size of the individual plots will be 2.5 acres.

The government through the 7NDP has indicated that it will strengthen land administration and management. The Government will review the Land Policy, establish the Lands Commission as per 2016 Amended Constitution and repeal the Lands and Deeds Act. This is to streamline land administration and management, make it more robust, transparent and ensure efficient land allocation. The Government will also institute a nation-wide land audit and digital mapping and titling project of all land.

* + 1. Population and migration

Mpika has a population of roughly over 250,000 with an average rate of increase of about 2.3%. The district and the province as whole has very low population densities. This removes the pressure on land for cultivation and other economic activities as least for now and in the foreseeable future.

The rural-urban population ratio is at 89:11. Rural-urban drift is not really a problem except rural dwellers will from time to time seek social and economic services from the urban center at Mpika boma. Muchinga Province had a young population with 48.6 percent of persons aged below 15 years. The median age was 15.5 years. The median age was higher in urban areas at 17.2 years compared to 15.2 years in rural areas.

The Overall Dependency Ratio is at 106.9 persons per 100 persons aged between 15 and 64 years. Child and Aged dependency ratios were 100.6 and 6.3, respectively.

The overall sex ratio was 96.7 males per 100 females, while the sex ratio at birth was 101.6 males per 100 females.

* + 1. Social services
  1. Infrastructure

Road infrastructure remains poor in most of Zambia’s rural areas and Mpika is not an exception. There is a major road running through the district and that has made development in the hinterland that much more difficult. All economic activity is concentrated along or near this main artery for value chain activities to take place efficiently and effectively. The railway network continues to be woefully underutilized.

The 7NDP has listed road and feeder road presence/absence as a binding constraint and will invest funds in the construction and/or rehabilitation of these roads in the medium to long term.

* 1. Institutions

The department of Agriculture (MoA) has district offices in Mpika that will coordinate agro activities. This is also true of other wings of government such as research. There is also an agro college. There is a large number of NGOs working in the district including private sector players such as COMACO.

The government institutions have perennial underfunding problems that makes their levels of effectiveness quite low if non-existent. Support to these institutions particularly in areas of extension services, capacity building and other areas is key to rural development. The Implementing Agency, .IFAD will provide support to the partners in the project areas through its funded project in Zambia (S3P).

1. Target Group

The estimated total number of beneficiary farmers is to be registered in the scheme is 2000 farmers with a total land area of roughly 500 hectares with average landholdings of 2.5 acres each.

Five hundred (500) additional farmers will comprise vulnerable groups, including 50% women and the youth. The dependency ratio in Zambia is very high and these youths will need jobs to sustain themselves. The remaining group will be chosen from both women and men. We expect the women participation to be relatively high.

Most of the target groups are farmers already and should have at one point belonged to a project support farming inputs. The cropping systems may just be different. We also expect to register about 20 farmers that belonged to a project managed by the SCCI. Details of these farmers will be made available at mobilization stage.

Small Holder Farmers: The smallholder farmers will be carefully selected in clusters and group leaders will be identified who will then coordinate all farming activities. These group leaders will be incentivised by providing them with bicycles for ease of movement and also an agreed amount of air time for ease of communication. They will call for meetings and organize farmers for training and any other activity to be carried out, mainly acting as the focal point persons in their communities.

## Outcomes/Components

Outcomes

1. The project expects to achieve the following outcomes in the medium term:
2. Increased income and food security through improved diversified agriculture for smallholders
3. Employment creation (formal)
4. Improved demand for other goods and services produced in the region
5. Higher literacy levels in business and agro management
6. Strengthened value chain activities at all levels; upstream, midstream and downstream

Components

1. **Value Addition Component:** The project will procure a 20-50 tonne per day soya bean processing plant (the project will procure in the region of between 6,000 and 15,000 TPA soya beans, depending on size of plant, with 300 days per year that allows for factory downtime) to process raw soya into oil and by-products that include soya cake.

The soya oil extracting plant will require estimated productions costs of $46,810 per month at full production capacity of 50TPD. The executing entity will be responsible for the maintenance of the plant and it is expected it will be a self-sustaining enterprise. Any additional resources that may be required for its operation will be sourced by the executing agency MADECO. The strategy for the disposal of the plant’s production will is two pronged: First, the entity expects to enter into off-take agreements with established producers locally. Secondly, it will involve entering the wholesale and retail markets locally and within the region to sell refined cooking oil and livestock feed. Outside the region markets of COMESA and SADC, Congo DR is a good market for Zambia’s products.

1. **Farmer Support Programme:** including support for the establishment of 2,000 smallholder farmers (existing 1,600) trained in water management; seed and crop production with optimal yields averaging 2,500kg/ha and pest control technologies; 34 extension officers will receive training of trainers; training on environmental mitigation measures and health aspects related to irrigation; training in techniques of financial management and business planning, aspects of post-harvest handling and in simple market research concepts; construction of community storage facilities and market centers. A 20 ton truck will also be procured. All assets procured under this component will be used to implement the value addition component.

The District MoA team will act as a technical facilitation team for project activities. The MoA will receive motor bikes from the project to carry out extension support. The officers here are full time government officers. The project will facilitate extension work through provision of allowances and fuel for the duration of the project.

1. **Project Coordination and Management:** The project will provide resources for management and coordination of the project including key project staff, equipment for project and district coordination, monitoring and evaluation, supervision, preparation of audit and progress reports and studies.

Under this component, the project will purchase vehicles (x2) and office equipment. The assets bought under the component will be used by MADECO as it is expected the business will continue as a going concern.

## Lessons learned

1. The proposed project will focus on Relevance, Efficiency, Effectiveness, Impact, and Sustainability through:

* Focusing on results that matter
* Prudent resource allocation on results that matter
* Effective project implementation
* Planning within national priority sectors
* Community participation

# Project implementation

## Approach

1. The development of the entire soya bean value chain in the project area will entail that the implementation approach is phased. For this type of project a phased implementation approach is logical as it will improve effectiveness in as far as actualization of project objectives is concerned. Further, a phased approach will result in the sustainability of results achieved at each level of the value chain.

## Organizational framework

**Implementing Agency**

IBSA funds will be considered and treated as supplementary funds under IFAD’s governing rules and regulations. IFAD will implement the project through S3P, an IFAD funded Programme in Zambia. The project will be implemented through a subsidiary agreement between S3P and MADECO. MADECO is the Responsible Party for executing the project activities with support from S3P and Government of Zambia through MoA. However, in view of its nascent capacity to implement projects, the MADECO will be strengthened for effective project implementation. Accordingly, MADECO will recruit a technical team, led by a Project Coordinator, to oversee the day-to-day coordination and management of project activities under the overall guidance of Project Steering Committee (PSC) made up of MADECO directors and representatives from S3P, local authority, traditional leadership and MoA.

MADECO will operate the processing plant beginning at the end of year two (2). The entity will employ a full complement of staff to manage the plant. Production costs are indicated in the appendix. The output from the plant will include refined cooking oil and cake. Market for the output is mainly local but we expect to export any surplus within the SADCC and COMESA free trade area. We expect to sign off-take agreements with major retail outlets in Zambia.

**Institutional Arrangements**

The project organization and management is presented in Annex 2. The project will be implemented by MADECO who will oversee project implementation, monitor project progress, and coordinate and account for the utilization of project funds. The MADECO will be strengthened by the recruitment of technical and key staff comprising a Project Coordinator, Project Accountant, Monitoring and Evaluation Officer, Field Officer, Procurement Officer and support staff and their remuneration paid under the partnership contribution resources. The technical team, including the Project Coordinator, will comprise experienced professionals competitively recruited from the open market. The key staff will be recruited with IFAD approval. Since the recruitment of the technical team may take some time, and in order to avoid delays in the disbursement of the partnership contribution and startup of project activities, MADECO may designate an Interim Project Coordinator to work on the initial project start up activities, notably, the recruitment of the staff (using market salary scale).

The main focus of project activities will be at the Mpika district level and their implementation would be carried out through the existing district structures in line with the established decentralization process. The MADECO team will be responsible for the overall coordination of project activities and the monitoring of the implementation of project activities.

The project steering committee will meet twice a year and its mandate will include approval of the Project’s Annual Work Plan (AWP) and Budget (AWPB) and Procurement Plan (PP) before submitting these to the IBSA for review. The PSC will also monitor performance of the project and provide advice on policy issues.

## Planning, M&E, learning and knowledge management

1. Our planning, M&E, learning and knowledge management is detailed here below.

Planning

1. Our planning, in line with RBM principles, helps to focus resource allocation and subsequent implementation on the results that matter. To foster local ownership and ensure effectiveness of the project goal and objectives and ultimately guarantee project sustainability, the RBM framework was developed with consultation and buy-in key from stakeholders

Participation and buy-in of the Mpika Chiefs including Chiefs Chikwanda, Mpempo and Mukungule and prospective project participants, the Mpika district government offices for the department of Agriculture, the SCCI and indeed the IFAD was essential for the framework to be an effective tool for mutual accountability between partners working towards common goals.

Our key planning tool was the recently launched 7NDP that lists the sustainable development goals and the strategies that will be employed to achieve the national objectives. The government of Zambia has indeed now institutionalized the RBM framework as a tool that will ensure ALL activities are targeted at achieving outputs and outcomes while at the time avoid duplication and wastage. Our selection of this project rests on its likely effects on growth and other national objectives such as diversification in agriculture. This proposed project will therefore be a special purpose vehicle for using resources to create new income.

We have, as indicated here above, set the stage for effective project preparation and analysis that has been set in the framework of the broader development plan; the 7NDP. We, therefore, see this project as part of the overall development strategy and a broader planning process, and as such those two aspects will dovetail appropriately.

Monitoring and evaluation

Monitoring would be an integral part of project management activities. A team of consultants will carry out a mid-term review after one (1.0) year of project implementation. A consultant would be recruited for one month in the first year of the project to assist with the establishment of a comprehensive monitoring and evaluation system. The consultant would come back every year starting from the end of the first year for the same period to assist with the analysis of the data collected. The monitoring and evaluation system would include, at the community level, a system of Participatory Monitoring and Evaluation. The M&E Specialist will use resources from the S3P for purposes of baseline data input. and follow it up with annual surveys to assess performance and impact of project activities. It will be responsible for compiling the quarterly, semi-annual and annual progress reports. The project M&E process will, as far as possible, be anchored within the existing system of the IFAD.

The IFAD will conduct regular follow-ups, review and participate in the supervision missions to closely monitor the implementation of the project. This will be undertaken as often as required.

Learning and knowledge management

1. We view the learning and knowledge management framework as a critical tool that will strengthen and undergird project sustainability based on our business model. We shall seek to formalize this process through a meticulous documentation structure that faithfully captures the underlying substance of the results of our interventions.

There are three basic facets of sustainability. These are: create long term value, capacity to endure, and stewardship. Create Long-term Value for the project to survive, will mean a focus which is viewed by the stakeholders as having a value spanning a long timeframe. This is particularly true for project participants, donors and GoZ. We shall ensure that the contribution of their respective participation in creating value for the organization is making a tangible difference.

Our ability to create and/or deliver outcomes and impacts with long term significance will be critical for long term sustainability. Our RBM framework specifically lays out plans in terms of impact and results.

An outcome based approach will ensure all activities are focused on achieving outcomes that matter.

The executing agency MADECO will strengthen its capacity sustainability by building or creating the capacity to function within a variety of economic and social-political environments. From the business model aspect, the capacity to endure means that the cost recovery framework means our operating capital base is either maintained and/or enhanced but not eroded. Cost recovery and the ability to maintain operating capacity from year to the next means also factoring in inflationary concepts so that physical capacity is maintained.

Another characteristic of the capacity for sustainability is the ability of the organization to select and maintain a focus that is relevant to the needs of the primary stakeholders. Such a focus will provide us with the vision and structure to both have a long-term view and endure within changing economic/social circumstances. Again, knowledge will be at the core part of the organization to convey this message consistently to all stakeholders and the general public.

Our stewardship will be focused upon taking care of the assets of the project in a manner which preserves and conserves the project’s ability to survive and carry out its mission. We have in this vein plans for knowledge regarding the assets, results and outcomes. Stewardship will require that the project manages all of its assets including intangibles such as image and branding to create long term value. In summary, sustainability for us requires that the project be focused on long term viability. This requires focus on vision and mission that create long-term value. The organization will create a financial environment that can support its activities within a variety of economic, social, and political scenarios. All of these require accessibility to knowledge and information. There will be a shared vocabulary and shared experiences. Thus, knowledge management will play a key role in providing a framework for sustainability of the project.

Knowledge will be become institutionalized so that it is easily transferred to others. Typically, explicit knowledge is internalized and made available to project members by use of database technologies. To achieve knowledge management, the project will transition from task-focused to process-focused. Such transition will require that all stakeholders involved in tasks to support the project’s vision and mission understand how their tasks impact and fit within the overall strategy of the project.

Outputs that include training materials will be available for public access on the project website and at the project office.

## Financial management, procurement and governance

* 1. Financial management

The financial management system will consist of the methods and records established to identify, assemble, analyze, classify, record and report the project transactions to maintain accountability.

The financial management system will be capable of identifying, accumulating, recording and segregating costs by component and subcomponent, so that the use of IBSA funds may be identified, tracked, and properly accounted for in accordance with generally accepted accounting principles. This also applies to any programme income.

An experienced Project Accountant will be responsible for financial management and reporting procedures for the project. The accountant will ensure that proper accounting procedures are implemented and maintained on an automated accounting system for the project in order to facilitate verification of expenditures by component/category and source of finance. The project accountant will be responsible for the provision of acceptable accounts and will submit monthly returns of expenditure to the IFAD representative to request for replenishment of the Project Account.

The audit of the annual financial statements of the project will be undertaken by a certified public accountant using international ISAs. Provisions have also been made for the recruitment of reputable professional auditors mutually acceptable to MADECO and the IFAD. The certified audit report shall be submitted to the IBSA not later than six months after the financial year.

* 1. Procurement

The ESB3P procurement policies, procedures and systems include, at a minimum, standards of conduct governing the award and administration of contracts and assistance instruments, provided that all such procurements are conducted in a manner to provide open and free competition to the maximum practical extent an provide for some form of cost or price analysis to be made and documented for each procurement, require that appropriate procurement records be kept, and comply with applicable cost principles. The procurement system addresses, at a minimum, the following (as applicable):

* Competition requirements
* Exceptions to and approval of other competitive procedures
* Proposal / bid evaluation
* Purchase approval requirements
* Appropriate use of consultants
* Contract types and appropriate uses
* Flow-down of appropriate IBSA/ IFAD partnership contribution provisions
* Performance monitoring and payment
* Post-award administration
* Documentation and record keeping
* Exceptions to policy

Procurement policies under the project will follow GoZ procurement regulations and guidelines as promulgated under the Zambia Public Procurement Act No 12 of 2008, Statutory Instrument of 2011. IFAD will provide oversight on procurement plan. The MADECO will procure vehicles and other assets for use by the project. The motor bikes will be for use by government after project closure. MADECO will keep the two (2) vehicles and the truck to run the processing plant.

* + 1. Simplified bidding/selection
* Used for low value (As indicated in table below) off the shelf purchases
* At least three (3) competitive quotations are obtained by use of a written Request for Quotations document
* The Request for Quotations should give clear instructions on the conduct of the procurement process, including the preparation and submission of quotations and information on the evaluation of quotations and award of contract
* Suppliers requested to submit quotations supported by certificate of registration, ZRA Tax Clearance Certificate and relevant certification, e.g. National Council for Construction
* There is no need to advertise and/or gazette
* The evaluation is based on the request for quotations that was issued
* The purchase is confirmed by the Local Purchase Order
  + 1. Open bidding/selection
* Preferred procurement method
* For high value procurements (As indicated in Table below)
* Invitations to bid are gazetted and advertised in newspapers
* The invitation to bid is open to the public
* The bidding document is obtainable upon payment of non-refundable fee
* The invitation to bid has a minimum floatation period of four weeks for National tenders and six weeks for International tenders
* Sealed bids are deposited in a tender box
* The public is invited to attend the tender closing and bid opening ceremony
* Evaluation is based on the criteria given in the bidding document
* Authorization for award of contract is by the Board of the executing entity
* There is a requirement for publication of the best evaluated bidder before contract award
* A formal contract document is signed
* After commencement of a contract with the successful bidder, a procuring entity shall inform all other bidders that their bids have been unsuccessful and shall give reasons for that decision
  + 1. Limited bidding/selection

Used where:

* the circumstances do not justify or permit the use of open bidding
* the goods, works or services are only available from a limited numbers of suppliers or firms
* there is an urgent need for the goods, works and services and engaging in open bidding would therefore be impractical
* The invitation to bid is not gazetted nor advertised in newspapers
* The invitation to bid is restricted to nominated firms only
* A solicitation/bidding document is prepared and obtainable upon payment of a non-refundable fee
* The invitation to bid has a minimum floatation period of four (4) weeks for national tenders and six (6) weeks for International tenders
* Sealed bids are deposited in a tender box
* The public are free to attend the tender closing and bid opening ceremony
* Evaluation is based on the criteria given in the tender document
* Authorization for award of contract is by the board of the executing agency
* A formal contract document is signed
  + 1. Direct bidding

Used where:

* the goods, works or services are only available from a single source and no reasonable alternative or substitute exists
* due to an emergency, there is urgent need for the goods, works or services making it impractical to use other methods of procurement because of the time involved in using those methods
* additional goods, works or services must be procured from the same source because of the need for compatibility, standardisation or continuity
* an existing contract could be extended for additional goods, works or services of a similar nature and no advantage could be obtained by further competition
* the estimated value of the goods, works or services does not exceed the threshold prescribed in the Public Procurement Regulations
* The invitation to bid is not gazetted nor advertised in newspapers
* The invitation to bid is restricted to the nominated firm only
* The solicitation/bidding document is prepared and obtainable upon payment of a non-refundable fee
* The invitation to bid has a minimum floatation period of one (1) week for national tenders and six (6) weeks for International tenders
* Sealed bid is deposited in a tender box
* The public are free to attend the tender closing and bid opening ceremony
* Evaluation is based on the criteria given in the solicitation/bidding document
* Authorization for award of contract is by the Board of the Executing Agency after obtaining a “No Objection” from IFAD.
* A formal contract document is signed

Procurement Thresholds

**Threshold and Method for Goods, Works and Services**

|  |  |  |  |
| --- | --- | --- | --- |
| **Expenditure**  **Category** | **Contract Value Thresholds (USD)** | **Procurement Method** | **Contracts Subjects to Prior Review (USD)** |
| Works | >100,000  >10,000 – 30,000  <5,000 | ICB  NCB  Shopping | Prior Review  Prior Review  Post Review |
| Goods | >100,000  >10,000 – 100,000  <5,000 | ICB  NCB  **Shopping** | Prior Review  Prior Review  Post Review |
| Consultant Services Firms  Individual Consultants  Selection | >100,000  <100,000  <5,000 - | QCBS  LCS/CQS  ICS | Prior Review  Post/Prior Review  Prior Review |

* + 1. Force account

Force account is the construction by the use of the procuring entity’s own personnel and equipment. Used where:

* the quantities of work involved cannot be defined in advance;
* the works are small and scattered or in remote locations for which qualified construction firms are unlikely to bid at reasonable prices;
* work is required to be carried out without disrupting ongoing operations
* risks of unavoidable work interruption are better borne by the procuring entity than by a bidder or supplier; or,
* there is an emergency needing prompt attention.
* Community participation

Where, in the interest of project sustainability, or to achieve certain specific objectives of the project, it is desirable in selected project components to:

* call for participation of local communities and non-governmental organizations;
* increase the utilization of local know-how and materials; and,
* employ labor intensive and other appropriate technologies.
  + 1. Purchases from other procuring entities

The procuring entity may purchase directly from another Government agency without the application of any other method of procurement where:

* there would be no benefit in purchasing from a supplier; and
* the Government agency is able to meet all the procuring entity’s requirement as specified in the statement of requirement for a particular procurement need.
  1. Governance

The project will have a three (3)-tier governance framework as follows:

1. Project Steering Committee

The PSC will have oversight over the project operations and will meet twice a year to discuss among other issues project budgets, look at project progress reports and direction, etc.

Composition of the PSC will include the entire board of the executing agency (board members are listed in the appendix), a representative appointed by IBSA, representatives from S3P-an IFAD funded project, representative from MoA, representative from the traditional authority in the project area, the municipal council representative in Mpika, smallholder farmers’ representative and the project coordinator of the project as the PSC secretary (the other members will be nominated by the respective entities at an appropriate time).

1. Board of Executing Agency

The board of the executing agency will have overall authority over strategic and operational matters of the project. This will include authorization of procurement, requests for withdrawal application from the IFAD agency.

1. Project Management

Under the direction of the board of the executing agency, the senior management of the project will undertake operational decisions and implementation following strict laid down procedures, processes and standards.

The management will produce quarterly reports from the project information systems that includes the accounting, financial and procurement, M&E and other relevant information relevant for decision-making.

The IBSA Fund Board will oversee progress and challenges and review for approval any requests for substantive revisions or project extensions.

## Supervision

In view of the fact that the project area is very large, close supervision will be enforced of the project and at least twice a year. The Project Officers will assemble quarterly reports from technical information on a quarterly basis. This information will be submitted to the Project Coordinator who will be responsible for reporting to the Project Steering Committee (PSC). Through the project’s monitoring system, project management will monitor progress of all three components. A Mid-Term Review (MTR) will be undertaken by end of PY1.0 and a Project Completion Report (PCR) will be prepared by the grantee by PY2. The project implementation schedule is given in Annex 6.

## Risk identification and mitigation

The occurrence of severe droughts in successive years during project implementation could result in farmers not making meaningful returns on adopted improved crop varieties. The occurrence of this based on risk profiles of the rainfall patterns makes this unlikely. However, the project will implement irrigation activities in future years. Additionally, there may be a lack of capacity to plan and manage the implementation of project activities. This will be mitigated by the training which will be provided to the key implementing body. Furthermore, the IFAD will ensure that the project is supervised at least two times a year.

The interest and practical participation by the farmers in the implementation of the Scheme is of paramount importance, as it will greatly determine the impact of the project and its sustainability. The risk of inadequate participation of farmers in seed production, in particular their willingness and ability to use certified seed is very critical.

## Visibility to Partners

IBSA partners will be provided with visibility and recognition for their instrumental role supporting this project. Credit will be given to IBSA partners during public engagements by the project, particularly in interactions with the media, public and academic appearances and presentations, relations with the local community, the government of Zambia, project visitors and other institutions. Other efforts will be made where appropriate to provide visibility to IBSA and the South-South cooperation elements of this project.

# Project costs, financing, benefits and sustainability

## Project costs

1. Total project costs are US$ 1,714,680 as shown in the table below. A detailed cost schedule analysis is given at Annex 1

Figure 1: Project Costs

|  |  |
| --- | --- |
| **Total Costs** | |
| **1. Value Addition**  1.1 Processing plan  1.2 Civil works | 377,800  100,000 |
| **Subtotal** | **477,800** |
| **2. Farmer Support Component**  **2.1 Agriculture production (subcomponent)**  2.1.1 Training in crop production techniques      2.1.2 Support to smallholder farmers      2.1.3 Support to extension services  **2.2 Marketing**      2.2.1 Marketing capacity building and competitiveness      2.2.1 Storage facility | 5,150  486,600  43,000  23,125  80,000 |
| **Subtotal** | **637,875** |
| **3. Project coordination and management**    3.1 Personnel costs    3.2 Operating costs    3.2 Fixed costs    3.3 Consultancy costs | 157,760  129,000  70,000  54,100 |
| **Subtotal** | **410,860** |
| **Total Baseline/ Investment Cost** | **1,526,535** |
| Physical/financial contingencies | 16,677 |
| **Total Project Costs** | **1,543,212** |
| IFAD Direct Costs: Independent Audit, Evaluation …. | 42,252  itemize |
| IFAD Management Fees (5%) | 79,273.23 |
| **UNOSSC general management services (3%)** | 49,942.14 |
| **Total cost** | **1,714,680** |

## Summary benefits and financial and economic Analysis

**Summary Benefits**

Tangible benefits that are expected to accrue to the participants are incremental. Tangible benefits for the proposed soya bean agro project will arise from increased value of production and/or reduced costs.

Increased physical production, being the most common benefit, will come from two sources; firstly from improved yields per hectare. We expect to improve yields to around 2000kg/ha. Newer soya beans varieties have yielded 6000kg/ha in the recent past. The second source of increase in production will come from more hectarage being brought under production, We expect a total of 500 hectares to be brought under production. The increase will mean more income and /or increased food security.

Training of farmers will mean greater care is taken in crop management. This leads to improvement of quality of the crop. On the input side, it is expected farmers will be discouraged from using recycled seed; this improves quality and yields.

The timing of the sale will also change. This is important in one respect; it helps in improving prices farmers will obtain for their produce. We expect to provide marketing facilities such as storage for the participants. The project will also enable change in location of the sale. Lower prices will be minimized through export of the crop and sales to buyers in otherwise far flung areas.

Other benefits will include value addition, cost reduction through limited mechanization, reduced transport costs and indeed the avoidance or reduction of post-harvest losses.

As the economic analysis will show below, benefits will accrue to society as a whole through income taxes paid on the sales of the crop to the national government, job creation, growth in local demand for other goods and services, economic diversification, crop levies to the Mpika local authority, and foreign exchange earnings on the export of the crop.

**Financial Analysis**

An assessment of the financial impact, on the participants, of the proposed project was undertaken (see Annex 3). The financial analysis used made use of risk and uncertainty of a typical agro project through the use of dynamic/stochastic Excel spreadsheet models made possible with the risk software package, @RISK. The financial analysis used the NPV discounting technique over a forecasting period of 10 years. The uncertain inputs in this case included, the total investment cost (likelihood and/or risk of costs being over budget, on budget or under budget; Soya beans (seed) sales prices (prices have ranged from as low as USD 1.4 per Kilo this season to as high as USD 5 per Kilo); Yield per hectare, Total hectarage under cultivation; variable input costs; fixed costs, revenue growth as a factor of prices, yields, etc.

The analysis simulated the various sources of uncertainty itemized above affecting their value, and then determining the distribution of their value over the range of resultant outcomes.

Only soya seed production, prices and production costs have been included in the analysis as way of simplifying the analysis. This was also a way of restricting the analysis to the direct financial benefits that will accrue to participants.

The NPV of the project was a positive value with a mean of US 5.0 million and standard deviation of 3,115,878. The probability of recording a breakeven NPV of US 0 (zero) i.e. total project cost equaling the discounted value of the future cash flows or less is 1.0%. The probability of recording an NPV of > (zero) but equal to US 10.9 million is 94.0% and 5% above that. Most of the probability distributions of the input risks listed above were deemed to be triangular distributions with the minimum, most likely and maximum values and iterations or simulations of 5000 values for each risk identified. The required rate of return or cost of capital for discounting purposes was 12% with an inflation rate factored in. We did not have to deflate the forecast values separately into current prices.

The above detailed analysis therefore indicates the financial viability of the project. Input analysis is shown in Annex 3 at the bottom.

**Economic Analysis**

Economic analysis defers from financial analysis in one fundamental way; it assess benefits to the wider society.

The analysis, as result, was changed to reflect this fact. In financial analysis, for example, income taxes are a cost and will be deducted as an economic outflow from the participants. On the other hand, economic benefits that accrue to society from the project include taxes paid to the national treasury. This means taxes are an economic inflow on the analysis.

The effect of this change is that the NPV will be larger than in financial analysis. The mean and other statistics calculated above will therefore be larger than those indicated, meaning the positive NPV is larger still, making the project worthwhile for the society as whole. We therefore expect the EIRR to be larger than the RRR or the cost of capital of 12%, which translates to an opportunity cost of the project.

**Social Impact Analysis**

The proposed project is expected to yield considerable benefits to participating farmers and to the whole economy. The project will have positive impact on the economy by assisting to build and retain capacity for about 500 farmers within the Mpika project sites. The marketing component of the project will serve about 40% of the project district, i.e. more than 50,000 people in the project district. The project would contribute to creating a cadre of well-trained smallholder farmers and promote business development and the emergence of rural entrepreneurs with the objective of creating a critical mass of self-confident and business oriented farmers who will be able to identify, develop and exploit economic opportunities related to agricultural production and marketing on a sustainable basis. It will lead to strengthened farmers’ organizations that would perform basic market researches in order to sign contracts with potential customers.

The crop specific training will result in significant gains in productivity and production by improving crop practices and later irrigation among smallholder farmers resulting in increased food security. This will contribute to poverty reduction.

The construction of a processing facility, community storage facilities and market centers and marketing specific training will result in significant reduction in crop losses and improvement of crop standard and specifications. This will increase the marketable cash crops which will lead to improved quality and standard of living of the targeted population. For example, a preliminary value chain analysis for soya beans in the Mpika area shows that farmers receive about 20% of market margins. The marketing component of the project will improve the quality of the produce to meet the requirements of the modern markets. This will be due to the storage facilities and market centers at project site. The price of the new high value products will be increased due to the improved quality and the targeting of different consumption markets.

Enhancement of Women Participation: The project will promote gender mainstreaming and will specifically target female-headed households to improve their livelihoods through membership of project. Women will be involved in the participatory management as members as well as more than half of the contract farmers trained by the project. Women’s access to project benefits will be increased through training, especially in the area of farming skills, business skills and community development activities. The Monitoring and Evaluation Officer will facilitate collection of gender-disaggregated data and the project coordinator will ensure active involvement of women in the project.

**Sensitivity Analysis**

A sensitivity analysis has been carried out to assess the impact on estimated project returns arising from changes in base case assumptions as presented below using the stochastic models as explained above and shown in Annex four (4). The sensitivity analysis tornado chart was constructed with the aim of showing which of the eight (8) inputs has the greatest effect on the mean NPV. Each bar on the chart indicates how much the mean NPV changes as a particular input varies over its range while other inputs remain static. Clearly, seed sales price per Kilo (range 1:5) has the greatest impact on the mean NPV. This is followed by the yield per hectare, total area under cultivation, investment cost and lastly annual operating fixed costs.

For example, with a NPV baseline (mean) of USD 5 million, a fall in the price of the seed price from its most likely value of USD 2/Kilo to USD1.0/Kilo will reduce the baseline to USD 1.3 million. An increase to a maximum recorded price of USD 5/Kilo will increase the NPV baseline to USD 9.9 million

Other absolute reductions and increases for other inputs are shown in the tornado chart in Annex four (4).

These analyses show that the project is robust and can withstand a series of adverse effects by maintaining its EIRR above the assumed opportunity cost of capital of 12%. Also the robustness is demonstrated by the fact that only seed production analyses has been done. Other crop models will only add to the total positive outlay of the proposed project.

## Sustainability

A participatory approach and extensive consultation which was done during project identification, preparation and design has cultivated sense of ownership among the smallholder farmers whose commitment was endorsed in the initial participatory meetings. The high degree of farmer participation in all scheme development stages will ensure technical sustainability. The decentralised nature of implementation and the in-kind contribution of farmers during project implementation will bring about full ownership of facilities, developed by the project, and this will further enhance sustainability.

Land tenure security issues were extensively discussed with the beneficiaries during the study period which is an important aspect for scheme sustainability. Environmental mitigation measures have been incorporated into the project design whose implementation will minimize negative environmental impacts expected to result directly from civil works.

The proposed extensive training, including study tours and exchange visits, for farmers at the grassroots level will ensure full responsibility of scheme management leading to self-management and thus long-term scheme sustainability. The proposed training will assist in strengthening farmers’ bargaining power to gain better terms and access to required resources. Project management will be responsible for ensuring that all farmers owning plots, within the site, are fully utilizing them for agricultural production. The orientation towards cash crops, will assist the farmers to technically and financially establish themselves as they shift the farming systems towards higher value cash crops. The marketing subcomponent will assist farmers in establishing proper marketing links thereby having a ready market for their produce.

We have also intended the sustainability effects of learning and knowledge management. The project intends to leverage an effective and efficient information systems to achieve project sustainability.

MADECO will seek support from other institutions after the end of the IBSA fund period. This funding will include grants and loans from institutions domiciled in Zambia. We hope to leverage partnerships that will be cultivated with government, multilateral institutions such as IFAD, COMACO and others to institutionalize capacity enhancements, lessons learned and obtain the required financing for consolidation of gains recorded. We also hope to replicate the project in other areas of the province.

MADECO will run the processing plant and will provide an important market for the soya beans from the Mpika farmers after project conclusion. In turn MADECO will supply the plant outputs to retail outlets locally and in the rest of Zambia. The regional export market will also be targeted.

Appendix 1: Detailed Costs

1. Full detailed costing table







Appendix 2: Project Governance

1. Project Governance Chart



Appendix MADECO TEAM PROFILE

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Picture** | **Title** | **Profile Description** |
| Simon Bota |  | Director | Simon is an experienced business manager with experience stretching 30 years from Strategic Operations in Banking and the Pay Television industry. He was the General Manager & CEO of MultiChoice, Zambia for 6 years. Before that he was Head of Operations at Barclays Bank Zambia Plc and held several other portfolios including Head of Corporate Affairs and was in charge of Strategic Investment projects as Head of Change Management. He is a Past President of Rotary Club of Nkwazi and also chairs the Cheshire Homes Community Based Rehabilitation Programme. He is a past Chair of the Bankers Association Technical Committee and Zambia Electronic Clearing House Management Committee. He was a Board member of the one of the leading Government Daily papers, The Times of Zambia. He represented the Zambia Association of Chambers of Commerce and Industry on the Board of the Zambia Export Development Fund, managed by the Zambia Development Agency. Simon has a Post Graduate Certificate in Business Administration from the University of Glamorgan, Wales and a qualified PRINCE II Practitioner. |
| Richard Mushamba | C:\Users\rmushamba\Desktop\Various\2017_01_23\Pic.jpg | Director/Company secretary | Richard has over 20 years of high level consulting experience. Richard has undertaken or been part of assignments for GRZ, NGOs, Private Sector Firms, Development Institutions, USADF/USAID and EU funded projects that have had projects whose objective has been centered around unlocking the development potential of both for profit and non-profit entities such as feasibility studies, business, market and strategic plans. Richard is a qualified accountant as well as holding a first degree in Accounting and Finance from Copperbelt University (CBU) and an MBA Finance with CBU. His last appointment was Head of Finance for Continental Oil Company Limited. Relevantly, he has undertaken assignments in rural Zambia that seek to establish market linkages along the value chain is well versed in the use of marketing planning models such Features Advantages and Benefits (FABs). He has also throughout his career, been undertaking capacity development assignments for SMEs, NGOs and donor funded initiatives in business skills, financial management, sales and marketing, organizational systems and procedures, etc. |
| Mildred Stephenson | C:\Users\Admin\AppData\Local\Microsoft\Windows\INetCache\Content.Word\20170403_082631[11169].jpg | Director | Mildred has a Masters’ Degree in Economics and Finance, Diploma in Management Studies and at final stage for a Masters’ in Business Administration. Mildred has over twenty years of professional experience in multicultural environments and held middle and senior management positions in both the public and private sector. Currently She is the Chief Executive Officer for Credit Reference Bureau Africa Limited trading as TransUnion. She has wide experience and skills in setting up a business and putting in place processes and procedures for effective operations. She has been instrumental in enhancing a positive perception of credit referencing in Zambia and work closely with Regulators and Government on various specialised activities in the key sectors of the Zambian economy. Mildred has worked at PricewaterhouseCoopers and Deloitte managing a portfolio of clients from various sectors of the economy, providing tax advisory services and compliance. She also worked at Zambia Revenue Authority and was involved the setting up VAT and its implementation at inception |
| Knox Karima |  | Technical Advisor (Plant) | Knox Karima is a Registered Mechanical Engineer with considerable industrial experience both as a practicing Engineer and Manager. He served as an Engineer, Factory Manager and Technical Manager during a period of 18 years with Chilanga Cement PLC in Zambia. He worked for 4 years for the Commonwealth Development Corporation (CDC) as General Manager of Portland Cement Ltd in Malawi during 1997 to 2001. He also served as Managing Director of Zambia Railways Ltd from 2004 to 20012. He has participated in the formulation of the Zambian Standard for Cement. He holds a Bachelor of Engineering Degree (University of Zambia - 1979) and also holds certificates in various courses in General Management (Henley Management college –UK), Financial Management for non financial Managers (Irish Management Institute), Maintenance Management (Sweden) and Cement Production Technology (Ireland and Denmark). |
| Choongo Chibawe |  | Director | Choongo Chibawe is an accomplished agricultural and business consultant with more than twenty (20) years of relevant professional and progressive experience in private sector trade, finance, and agribusiness and enterprise development. He holds a Bachelor of Agricultural Sciences degree and a Master’s degree in Business Administration. |
| Mwaba Kasese-Bota |  | Director | Dr. Mwaba Kasese-Bota is a medical doctor, an accomplished diplomat and sustainable development Expert.  She comes with over 15 years of project management both as donor and implementer having worked for USAID, UNICEF and the government of Zambia, as well as expertise in policy formulation and implementation. Having played a critical role in the defining and ultimate adoption of the 2030 Agenda for Sustainable Development, she brings a wealth of knowledge on south south cooperation, gender equity and equality and youth empowerment and general sustainability issues. |

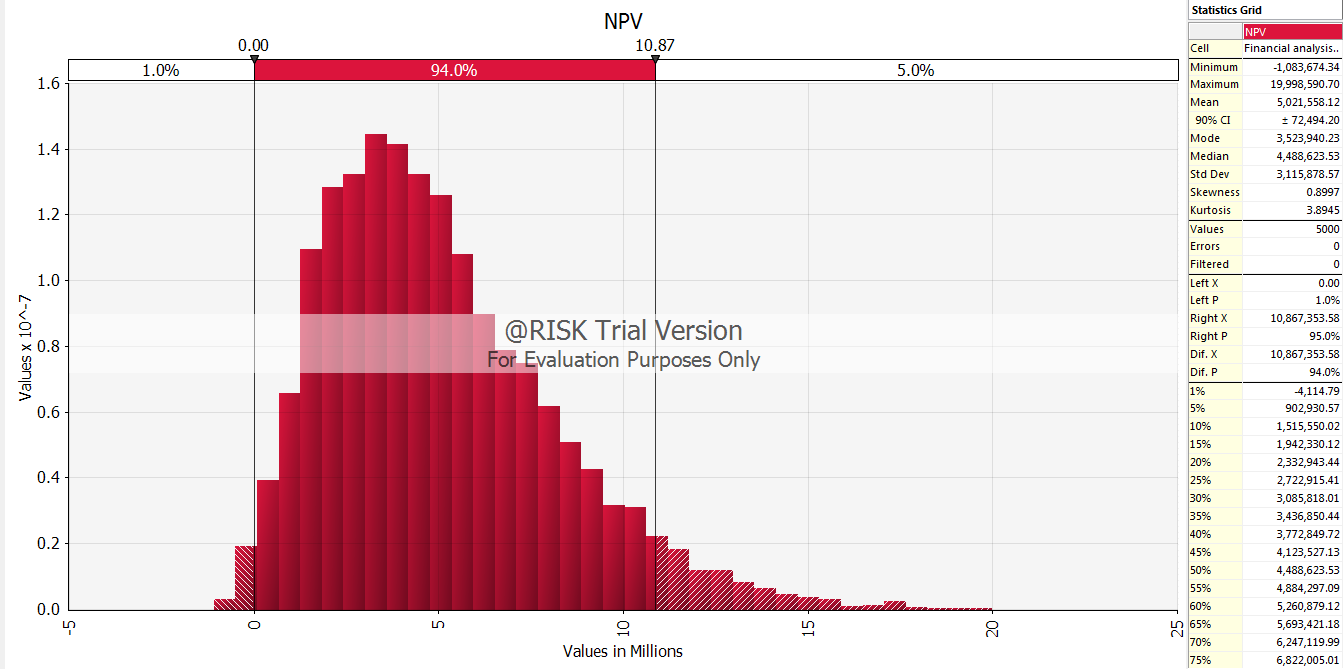
Appendix 4: Financial Analysis

1. Financial Analysis table



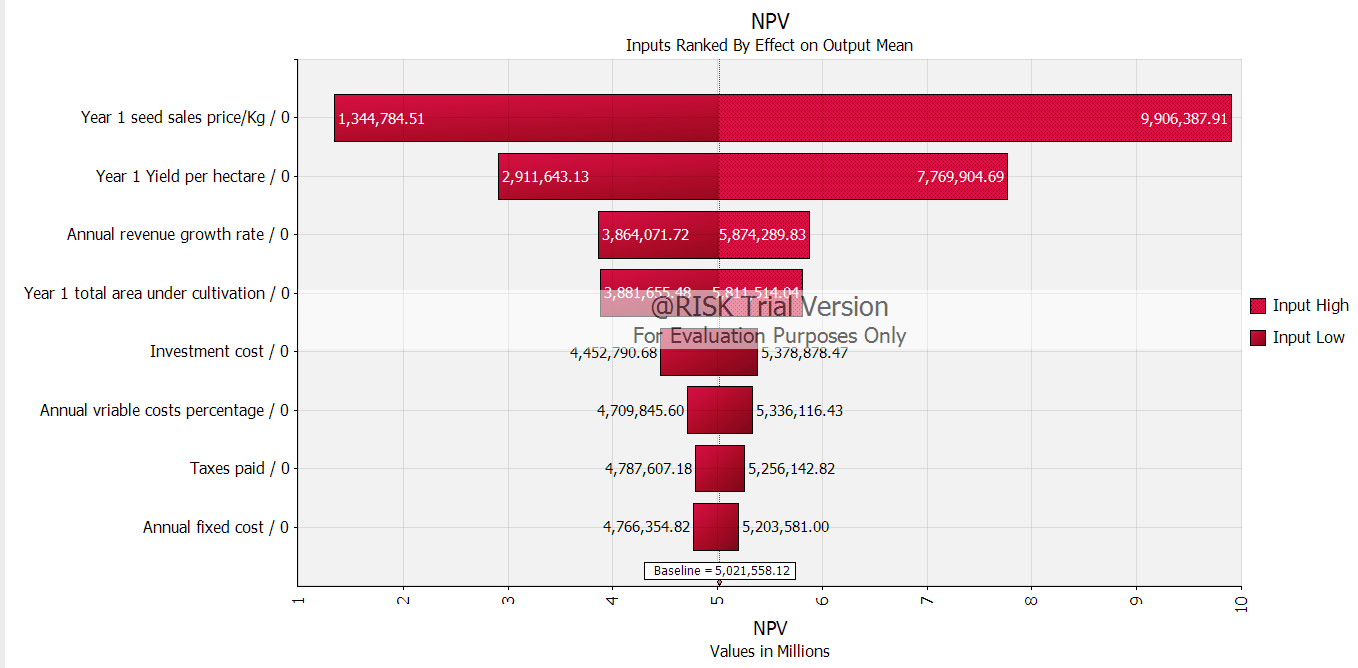


Project NPV Probability Distribution Graph



Appendix 5: Sensitivity Analysis

1. Sensitivity Analysis Tornado Chart



Appendix 6: Implementation Schedule

1. Implementation Table

